

## Two new species of Platypezidae from Kenya (Diptera)

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*Lindneromyia kesseli* spec. nov. and *Paraplatypeza celaena* spec. nov. (Diptera, Platypezidae) are described from Kenya, with notes on the oviposition behaviour of *L. kesseli*.

The recent revision by Kessel and Clopton (1970) of the Platypezidae of the Ethiopian region lists 38 species belonging to 8 genera. Only one species, the widely distributed *Plesiocythia hendricksoni* Kessel and Clopton, is recorded from Kenya, from the Teita Hills. Indeed, only 10 species are reported from the whole of tropical Africa, the great majority of the Platypezidae known from Africa being described from southern Africa. That this distribution, one commonly found in other groups of insects, is at least partly due to lack of collecting in tropical Africa is demonstrated by the discovery in Kenya, as the result of casual captures while hunting other Diptera, of two new species of platypezids. It is probable that better collecting would reveal a rich fauna of these interesting flies in equatorial parts of the continent; the larvae are found in fungi, a pabulum of considerable extent and variety in the tropics.

### *LINDNEROMYIA* Kessel.

***Lindneromyia*** Kessel 1965: 1. Type species *africana* Kessel, monotypic.

This genus was erected for a single female from Marangu, Tanzania. A series of females from the east rift highlands above Nairobi represents a second species of the genus, which exhibits some characters at variance with the original generic description; this is commented upon below.

### ***Lindneromyia kesseli*** spec. nov., figs. 1, 2

**FEMALE:** *Head* dull greyish-black, occiput with silver-grey dust around foramen, frons heavily dusted, mainly brownish but greyish along eye margins and narrowly as a band above antennae, genae and face densely dusted grey; frons at vertex about 3 times width of ocellar tubercle, which is prominent, ocelli reddish; antennae blackish to mahogany-brown, segments sub-equal in length and width, second with apical circlet of stout black bristles, third with apical fringe of short, yellowish setae, arista sub-apical on outer side of third segment, about 3 times combined length of antennal segments, distinctly segmented basally with 2 very small segments followed by a swollen portion about length of the minute basal segments combined and which, in some individuals, is constricted apically, thus appearing as a third arisal segment; proboscis blackish, labella pale; main setae on head: a row of short post-oculars, curved forward but not overlapping eye margin, lengthening on lower occiput and merging into occipital hair, these and short, stout hairs on head beneath sparse, black; upper occiput with very short, scattered black hairs; frons with bands of short black hairs, about 25-30 either

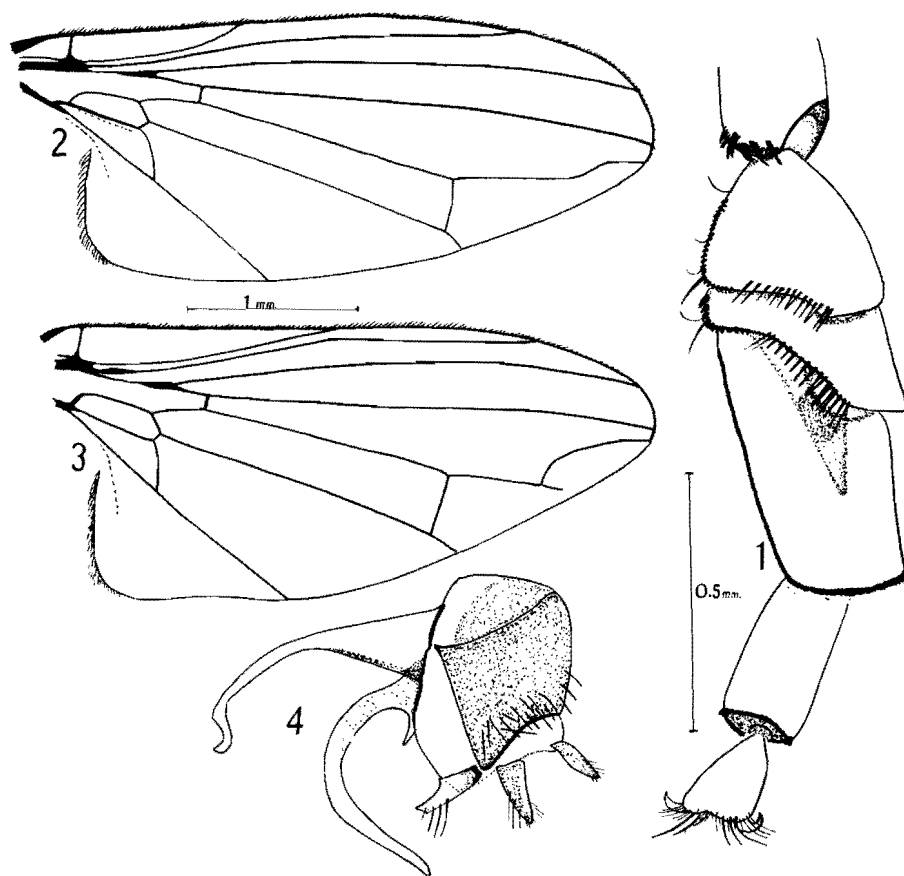
side of a shallow median depression, ocellar tubercle with 6-8 short black setae, 2 pairs more or less at external posterior angles, the inner pair the longest, a row of up to 4 in a forward curve between posterior ocelli. *Thorax*: mesonotum dull brown, blackened anteriorly with an indistinct median darker brown vitta from suture to scutellum, humeri reddish-brown, some greyish dust around pre-alar depression, pleura dull blackish-brown, propleuron and upper mesopleuron black, sutural areas extensively dusted grey, scutellum blackish-brown with brown dusting; chaetation: 3-4 very small humeral setae, about 8 post-humerals with one very strong bristle behind this group, dorso-centrals irregularly bi- to tri-serial before suture, uniserial thereafter, the last in each row very long and strong, the pre-suturals curving towards post-humerals but no definite band of setae connecting dorso-centrals and post-humerals, 3 very strong notopleurals, the innermost the shortest, a uniserial row of very short intra-alars, one strong post-alar, 2-3 pro-pleurals, 2-3 pairs scutellar bristles irregularly developed: 2 pairs, 2 on one side with or without a small third and 3 on the other side, or 3 pairs. *Abdomen*: generally deep matt-black, first tergite broadly greyish at sides, second less so, all segments with broad grey hind margins, thus first and to lesser extent second appearing grey with median quadrate black patch, venter yellowish-brown at base darkening to black at apex, ovipositor yellowish; setae short, black, sparse, the bristles on seventh sternite stout, reddish-brown. *Legs*: yellowish-brown, last four coxae blackish-brown, femora variably darker brown; hind tarsus (fig. 1) with first 3 segments markedly flattened, fourth less so, third longer than first, "sole" present on third segment but not strongly developed, occasionally traces of "sole" on fourth segment; setae, bristles and spines black except plantar setae on all tarsi which are yellowish; claws black, basally yellowish, pulvilli yellowish. *Wing* (fig. 2) clear, without stigma; squamae blackish to dingy-brownish with blackish-brown to yellowish-brown fringe; halteres black with variably brownish stem.

Length of body 3.25-3.8 mm.; of wing 3.0-3.7 mm.

MALE: unknown.

MATERIAL EXAMINED: eight females. Holotype and 7 paratypes from KENYA, Muguga, 6 800 ft., 17.v.1970 (J. Bowden). Holotype in my collection, paratypes in coll. J. B., British Museum (Natural History) and U.S. National Museum.

REMARKS: this species is readily separated from *L. africana* by its colour, especially that of the abdomen, but there are some features in which *kesseli* departs from the generic diagnosis derived from *africana*. The third antennal segment is without bristles but has an apical pubescent fringe, the second segment thus being the only one with bristles. The arista is quite distinctly segmented basally, although the origin of the arista, just basad externally of the apex of the third segment, obscures the minute segments in some individuals. There are several ocellar setae and 2 or 3 pairs of scutellar bristles, not one pair and 3 pairs, respectively, as described for *africana*. Finally, the "sole" is present definitely on the third segment only of the hind tarsus, although in some individuals a slightly impressed, less setose area is present on the fourth segment. It is thus necessary to amend the generic diagnosis to: Platypezinae with head as broad as thorax, eyes widely separated in female (male unknown), third antennal segment bristled or pubescent, thorax moderately arched, without acrostichal setae, pre-sutural dorso-centrals pluri-serial, propleural setae present; wings broad, M2 absent, M1 broadly curved, anal cell short, vein Cu curved; posterior tarsi moderately enlarged,



Figs. 1-4. 1-2. *Lindneromyia kesseli* spec. nov. 1. Hind tarsus, ventral surface, minor setae omitted; Scale line: 0,5 mm. 2. Wing; Scale line: 1,0 mm. 3-4. *Paraplatypeza celaena* spec. nov. 3. Wing; Scale line: 1,0 mm. 4. Male hypopygium; Scale line: 0,5 mm.

third segment the longest, "sole" well developed in female on third segment of posterior tarsus or on third and fourth.

This amended diagnosis lessens the differences between *Lindneromyia* and two similar genera, the Nearctic *Metaclythia* Kessel and the South African *Pamelamyia* Kessel and Clopton, but does not invalidate the generic status of *Lindneromyia*. Accepting the criteria of Kessel and Maggioncalda (1968) and Kessel and Clopton (1970), *Lindneromyia* is separable from *Metaclythia* by the much shorter anal cell, cross-vein m less than its length removed on M3+4 from the wing margin (which also separates *Lindneromyia* from *Pamelamyia*) and by the pluriserial pre-sutural dorso-centrals. From *Pamelamyia* it is also distinguished by the longer first basal cell (2nd R).

The flies were all collected in late afternoon on and around a large, fresh Agaric found beneath heavy shade. Ground cover was a short grass sward flanking a path. The flies approached the fungus either directly, alighting on the top of the cap, or indirectly by alighting on blades of grass as far as about 12" (20–30 cms.) away from the fungus and then crawling towards it. They were easily disturbed and flew if capture was attempted while settled on the top of the cap or moving towards the fungus, but once individuals had moved onto the gills they were easy to catch. As far as could be seen (the writer is tall and the fungus was close to very wet ground) the behaviour of the females on the gills of the fungus was very similar to that described for *Plesiocythia agarici* (Willard) by Kessel (1960). The flies backed into an egg-laying position, head facing the periphery of the pileus, and sank the abdomen as far as the wing bases between two gills, meanwhile bracing themselves by the hind legs across neighbouring gills. The majority of the females watched made their way towards the centre of the pileus where observation was difficult but some positioned themselves near the edge and it was from these females that the attitude description was made. Each individual maintained the egg-laying position for several seconds but was able to extract herself from between the gills with apparent ease. Subsequent behaviour varied. Some proceeded deeper into the central area of the pileus, others moved back to the top of the cap where they either remained for several minutes before going back to the gills at a different spot, or took off; others either flew away direct from the cap or onto the grass from where they eventually flew off. At any one time there were up to a dozen flies around the fungus and during the half-hour or so that observation was maintained there was a continuous stream of females coming and going. Unfortunately, by the following morning the mushroom had gone.

Marangu, the locality from which *L. africana* was described, is on the SE slopes of the Kilimanjaro massif, so that, as in several other instances, two closely allied but distinct species are found on Kilimanjaro and the not-far-distant Kenya highlands. This distribution suggests that *Lindneromyia* may be found south to Natal and, possibly, west to the Cameroons.

#### *PARAPLATYPEZA* Kessel and Maggioncalda

**Paraplatypeza** Kessel and Maggioncalda 1968 : 56. *Platypeza coraxa* Kessel, type species by original designation.

This genus is one of several segregates from *Platypeza s.lat.* which are based primarily on somewhat slender venational characters. As defined, the genus contains a small number of Nearctic and Palearctic species, plus two recently described from southern Africa. It is of interest, though not surprising, to record a species of the genus from Kenya, which in some features resembles another segregate from *Platypeza*, *Plesiocythia* Kessel and Maggioncalda.

#### *Paraplatypeza celaena* spec. nov., figs. 3, 4

**MALE:** *Body* entirely black, frons and face densely dusted grey, dorsum deep matt-black, mesonotum with obscure lightly dusted greyish areas along median line and in post-humeral patches, posterior margin of sixth abdominal tergite broadly dusted greyish; pleura more brownish-black, extensively but sparsely dusted, venter lightly dusted greyish. *Head:* ocelli reddish, tubercle with a tuft of about 12 long, black hairs, most in a row across posterior margin; eyes with dorsal half of large facets red, lower

half of small facets light brownish; antennae black, segments sub-equal in length, second with apical fringe of short, black bristles, third with apical fringe of fine, yellowish hair, arista with two very small basal segments and about 3 times combined length of antennal segments; proboscis and palps black with dark, yellowish reflecting hairs; main setae of head: a post-ocular fringe of short, black, forwardly curved setae on upper half of eye, corresponding occipital area bare, lower half of occiput and head beneath with fairly dense black hair, frons, face and genae bare. *Thorax*: without acrostichals, 20–25 uni-serial dorso-centrals in each row, the last 2 or 3 of each row as strong as scutellars, the anterior ones connected by a short row of setae to the post-humeral group, behind which is a very long, strong bristle, 3–4 small humerals, one sometimes distinctly longer, 4 very stout notopleurals, about 12 intra-alars in each of 2 rows, the last of each row almost as strong as the posterior dorso-centrals, one post-alar of the same size; 2–3 pairs of strong scutellars irregularly developed, 2 pairs, 2 on one side with or without a small third and 3 on the other side, or 3 pairs, the sub-apical pair the strongest. *Abdomen*: short hairs across hind margins of visible segments, the sides, including a lateral tuft on first segment, with very much longer hair; all black. *Legs*: coxae and femora brownish-black, anterior tibiae and tarsi yellowish-brown, other tibiae and tarsi brown, dorsal surface of two basal segments, particularly of hind tarsus, more yellowish-brown; hind tarsi strongly flattened, third segment slightly longer than first; claws black, basally yellow, pulvilli yellowish-white. *Wing* (fig. 3): glassy hyaline, marginal cell very pale yellow throughout; squamae black with blackish fringe, halteres black. *Hypopygium* (fig. 4): differing from other species of the genus (Kessel and Maggioncalda 1968, figs. 49–51) in shape of parameres, which are slender with a double curve apically, aedeagus also somewhat recurved at apex; in general most resembling species of *Plesioclythia*.

Length of body 3.6–4.0 mm.; of wing 3.5–3.7 mm.

FEMALE: unknown.

**MATERIAL EXAMINED**: three males. Holotype and one paratype from KENYA, Muguga, 6 800 ft., 8.v.1970 (J. Bowden); one paratype same data except 3.v.1970. Holotype and one paratype in my collection, one paratype in British Museum (Natural History).

**REMARKS**: This species is easily distinguished from both *P. ikekeba* Kessel and Clopton, from Natal, and *P. congoensis* Kessel and Clopton, from Katanga, by its general black colour and differences in chaetation. It is superficially similar to the European *P. atra* (Mg.) but has frons and face bare and other differences in chaetation, colour and genitalia. If one accepts the generic criteria of Kessel and Maggioncalda (1968) this species is a *Paraplatypeza*, rather than a *Plesioclythia*, because of the position of cross-vein m, which is relatively close to the wing margin on M 3+4, and the third segment of hind tarsus being distinctly, if only slightly, longer than first segment. Nevertheless, the structure of the male hypopygium is more similar to that of some species of *Plesioclythia* than to *Paraplatypeza*.

Although only 3 specimens were collected, *celaena* is probably not uncommon. Numerous males were seen sitting, or walking in the characteristic platypezid manner, on bushes near one of the chalets at Muguga Rest House and it is assumed that they would have been *celaena*. The favourite perch seemed to be the tip of a leaf several feet above the ground.

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